

AUTHOR: Korsunovskiy, G. A. SOV/76-32-8-33/37

TITLE: On the Problem of the Photopolymerization of Vinyl Compounds in the Presence of Dyes Passing Over to the Biradical State (K voprosu o fotopolimerizatsii vinil'nykh soyedineniy v prisutstviy krasiteley, perekhodyashchikh v biradikal'noye sostoyaniye)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 8, pp. 1926 - 1927 (USSR)

ABSTRACT: In the papers by Oster (Ref 1), Uri (Yuri)(Ref 2) and A.A. Krasnovskiy and A.V.Umrikhina (Ref 3) it had already been mentioned that the free radicals, which are produced by a photoreaction of a number of dyes (chlorophyll) with the reducing substances energetically initiate the polymerization of methylmethacrylate. A similar reaction was observed by Koizumi, ~~vatanabe~~ (Watanabe) and Karoda (Ref 4). In the present paper experiments with magnesium phthalocyanine and zinc phthalocyanine with the monomer of methyl methacrylate were carried out. The author worked in high-vacuum and irradiated with a limit wave length of 600 mμ for 3 hours.

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On the Problem of the Photopolymerization of Vinyl      SOV/76-32-8-33/37  
Compounds in the Presence of Dyes Passing Over to the Biradical State

The results of the measurements carried out with 48 samples showed that: 1) The degree of polymerization of the dyed samples is always higher than that of those not dyed. 2) The higher the polymerization in the ampoules with the not-dyed monomers (which were irradiated at the same time), the higher will mostly be the degree of the polymerization in ampoules with dyed monomers. 3) A purification of the monomers and a previous photopolymerization decrease the yield of polymers. To find out whether additions initiate the polymerization the author carried out corresponding investigations. The molecular weight of the polymers was determined at the Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High Molecular Compounds AS USSR), and the measurements were carried out by O.V.Kalistov. Data by V.B.Yevstigneyev and A.A.Krasnovskiy (Ref/7) were used for the calculation of the concentration of the dyes. It is assumed that in the present case an irreversible oxidation of the dye under the formation of new reactive products takes place. In connection herewith the publications by Calvin (Kal'vin)(Ref 5) are mentioned. Finally the author expresses his gratitude to

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On the Problem of the Photopolymerization of Vinyl      SOV/76-32-8-33/37  
Compounds in the Presence of Dyes Passing Over to the Biradical State

A.N.Terenin. There are 1 figure, 1 table, and 7 references,  
3 of which are Soviet.

SUBMITTED:    March 24, 1958

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KORSUNOVSKIY, G. A., Cand Phys-Math Sci -- (diss) "Photo-oxidation of water by semiconductors." /Leningrad/, 1960. 14 pp; (State Order of Lenin Optical Inst im S. I. Vavilov); 150 copies; price not given; (KL, 17-60, 139)

PAGE 1 BOOK EXPLANATION 207/2921

Akademiyu nauk SSSR. Institut fizicheskoy khimii

Problemy khimicheskoy katalizatsii. [6] 10: Fizika i fiziko-khimiya kataliza (Problems of Kinetics and Catalysis. [vol.] 10: Physics and Physical Chemistry of Catalysis) Moscow, Izd-vo AN SSSR, 1960. 461 p. Kireva  
allya izmestno. 2,600 copies printed.

Red.: S.S. Bogdanov, Corresponding Member of the Academy of Sciences USSR, and O.V. Erylov, Candidate of Chemical Sciences, M. M. G. Akademiya.

PURPOSE: This collection of articles is addressed to physicists and chemists and to the community of scientists in general interested in recent research on the physics and physical chemistry of catalysis.

CONTENTS: The articles in this collection were read at the conference on the Physics and Physical Chemistry of Catalysis organized by the Odessa Khimicheskikh nauk AN SSSR (Section of Chemical Sciences, Academy of Sciences USSR) and by the Academic Council on the Problem of the Scientific Bases for the selection of catalysis. The Conference was held at the Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry of the AN USSR) in Moscow, March 20-23, 1963. Of the great volume of material presented at the conference, only papers not published elsewhere were included in this collection.

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Kozlov, M. M., and V.F. Erylov [Institute of Physical Chemistry AS USSR]. Investigation of Chemical Adsorption of Gases on Nickel Oxide and Its Solid Solutions	82
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Kozlov, M. M., G.I. Korotkiy, V.A. Kozlov, and V.B. Sedukhin [Moskovskiy khimicheskotekhnicheskii institut, Izdel. D.I. Mendeleeva, Moscow Chemical Technology Institute, Izdel. D.I. Mendeleeva]. Investigation of the Mechanism of the Nitrogen Adsorption on the Conversion of Carbon Monoxide	90
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KORSUNOVSKIY, G.A.

Mechanism of electronic exchange in the photooxidation of water  
on semiconductors. Probl. kin. i kat. 10:87 '60. (MIRA 14:5)  
(Semiconductors) (Oxidation)

24.3500  
5.2620

69847

S/051/60/008/03/035/038  
E201/E191

AUTHORS: Akimov, I.A., and Korsunovskiy, G.A.

TITLE: The Effect of some "Electronophylic" Compounds on the  
Absorption and Luminescence Spectra of Magnesium  
Phthalocyanine Solutions

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 3,  
pp 427-428 (USSR)

ABSTRACT: The authors investigated the effect of hydrochloric acid and of some metal chlorides on the absorption and luminescence spectra of magnesium phthalocyanine solutions. On addition (in air) of a solution of ferric chloride ( $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$ ) in acetone to an acetone solution of magnesium phthalocyanine, the blue colour of the solution changes to olive green and the absorption spectrum is altered as shown in Fig 1. The absorption bands of magnesium phthalocyanine with maxima at 665 and 601 m $\mu$  disappear and new absorption bands appear with maxima at 707 and 682 m $\mu$ . When the solution is allowed to stand the latter two bands decrease in intensity. After several hours new weak bands, characteristic of phthalocyanine without a metal, appear at 688 and 655 m $\mu$ . Simultaneously a deposit is formed

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The Effect of some "Electronophylic" Compounds on the Absorption and Luminescence Spectra of Magnesium Phthalocyanine Solutions

which when dissolved in dioxane exhibits a spectrum of phthalocyanine without a metal. Similar behaviour is observed also on mixing of an acetone solution of magnesium phthalocyanine with an acetone solution of hydrochloric acid of  $10^{-3}$  m/l concentration. These experiments indicate that the central magnesium atom is replaced by hydrogen and that this reaction proceeds via an intermediate unstable complex which has absorption bands at 707 and 682 mμ. An unstable complex is formed also on addition of  $SbCl_3$ ,  $SnCl_4$  and  $SnI_4$  to an acetone solution of magnesium phthalocyanine but in this case the absorption bands of phthalocyanine without a metal are not observed. Addition of bases such as pyridine, aniline or a concentrated aqueous solution of potassium hydroxide, destroys phthalocyanine complexes, as shown by the reappearance of the absorption spectrum characteristic of magnesium phthalocyanine. The authors investigated also the luminescence spectra of the mixtures described above. The spectra were recorded spectrophotometrically and they

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The Effect of some "Electronophylic" Compounds on the Absorption  
and Luminescence Spectra of Magnesium Phthalocyanine Solutions

were excited with the 365/366 mμ group of lines emitted by a mercury lamp SVDSH-250. Fig 2 shows the luminescence spectra of the solutions of magnesium phthalocyanine (curve 1), of the intermediate complex (curve 2) and of phthalocyanine without a metal (curve 3). A table on p 428 shows that the bands observed on excitation of the complex (683 and 745 mμ) coincide with the bands of magnesium phthalocyanine, and that the bands of the complex at 720 and 780 mμ are close in their positions to the bands of phthalocyanine without a metal. The 708 μ band, characteristic of phthalocyanine without a metal, is not observed in the luminescence spectrum of the complex, probably because of strong absorption by the complex in this region. The complex itself does not luminesce, since all its luminescence bands are due to either magnesium phthalocyanine or due to phthalocyanine without a metal and at longer wavelengths no new luminescence bands of the complex were observed. On addition of pyridine and aniline to the complex the

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The Effect of some "Electronophylic" Compounds on the Absorption  
and Luminescence Spectra of Magnesium Phthalocyanine Solutions

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luminescence bands of phthalocyanine without a metal  
disappear and the bands of magnesium phthalocyanine are  
intensified. Acknowledgement is made to A.V. Shablya  
for lending the apparatus for luminescence measurements. 14

There are 2 figures, 1 table and 4 Soviet references.

SUBMITTED: November 16, 1959

AUTHOR: Korotkovskiy, G. A., Leningrad

S/076/60/034/03/003/038  
B115/B016

TITLE: The Mechanism of Electron Exchange in the Photooxidation of Water on Semiconductors

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol 34, Nr 3, pp 510 - 517 (USSR)

TEXT: It was the purpose of the present paper to establish the relation between the photocatalytic properties of some semiconducting oxides and the change of their electrical conductivity under the influence of light, oxygen, and water vapor. The electrical conductivity of semiconductors was measured by a device shown in figure 1. Constituents of this device were, among others, an LT-2 thermocouple vacuumeter and an SVDSH-250 mercury-vapor lamp with a BS-7 color filter. An increase in electrical conductivity on exposure to light and a decrease due to the influence of oxygen and water was observed only in zinc oxide, titanium dioxide, and tungsten trioxide. The electrical conductivity of  $TiO_2$  and  $WO_3$  increases by some orders of magnitude on exposure to light in high-vacuum (Fig 2). The resultant curves are consistent with those obtained by I.A. Myasnikov and S. Ya. Pshezhetskiy (Ref 2) for zinc oxide. The electrical conductivity of the irradiated semiconductors decreases upon the action of dry air, and even more

Card 1/2

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9.4300 (3203, 1043, 1143)

S/076/60/034/011/022/024  
B004/B064

AUTHOR: Korsunovskiy, G. A.

TITLE: Change of the Electrical Conductivity of Cadmium Oxide and Lead Dioxide Under the Action of Light, and the Effect of Oxygen and Water on This Process

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 11, pp. 2613-2614

TEXT: In a previous paper (Ref. 1), it was shown that the chemisorption of oxygen and water on ZnO, TiO<sub>2</sub>, and WO<sub>3</sub> leads to a reduction of the electrical conductivity of these semiconductors. Exposure to light in the range of natural absorption causes a desorption of the O<sub>2</sub> molecules and HO<sub>2</sub> and OH radicals, and entails the photooxidation of water. This process has been studied on CdO and PbO<sub>2</sub> films approximately 0.2 mm thick. PbO<sub>2</sub> and CdO were exposed to light of 313 and 366 mμ wavelength, respectively, in a high vacuum. After the lamp had been switched off, conductivity decreased slowly. Introduction of dry air or oxygen

Card 1/2

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S/020/60/134/006/025/031  
B004/B054

26.2421

AUTHOR: Korsunovskiy, G. A.

TITLE: The Influence of Oxygen and Water on the Electrical Conductivity of Zinc Oxide Dyed With Erythrosine

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 6, pp. 1394-1396

TEXT: Ye. K. Putseyko and A. N. Terenin (Refs. 2, 3) proved that the photoconductivity of zinc oxide is sensitized for visible light by means of organic dyes.<sup>5</sup> Therefore, the author investigated the change in electrical conductivity of polycrystalline zinc oxide which had been dyed with erythrosine and showed photoconductivity both in the range of natural absorption of ZnO (Hg line 366 mμ) and in the range of sensitization (Hg line 546 mμ). Furthermore, he studied the influence of oxygen and water on the conductivity which was measured by means of a d.c. amplifier permitting the measurement of currents between  $3 \cdot 10^{-13}$  and  $3 \cdot 10^{-5}$  a. The samples were irradiated with an СВАШ-250<sup>8</sup> (SVDSH-250) mercury lamp and corresponding light filters. Fig. 1 shows that with exposure to light in moist air the steady current is stronger in the range of sensitization

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The Influence of Oxygen and Water on the  
Electrical Conductivity of Zinc Oxide Dyed  
With Erythrosine

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B004/B054

than in the range of natural absorption. In dry air and in vacuo, however, the current is stronger in the range of natural absorption than in the range of sensitization (Fig. 2). The drop in conductivity in the dark proceeds very slowly in vacuo; it is, however, accelerated by the introduction of dry air or oxygen. With the introduction of water vapor in the dark, the conductivity drops faster in the range of natural absorption than in the range of sensitization (Fig. 3). These results are explained by the assumption of a transfer of energy of light by oxygen compounds:

$\text{Zn}^+\text{O}_2^- \xrightarrow{h\nu} \text{Zn}^+ + e + \text{O}_2$  (1). In the range of natural absorption, an additional desorption of OH occurs due to decomposition of the exciton on levels of the hydroxyl group lower than the oxygen levels:

$\text{Zn}^+\text{OH}^- \xrightarrow{h\nu} \text{Zn}^+ + e + \text{OH}^-$  (2). Reaction (2) does not take place in the range of sensitization since the energy of the light quantum in visible light is not sufficient for a decomposition of  $\text{Zn}^+\text{OH}^-$ . Thus, the levels of the OH chemisorption remain occupied, and on the addition of water vapor neither its decomposition nor an adsorption of new OH radicals 7

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ARVAN, Kh.L.; KORSUNOVSKIY, G.A.; LEBEDEV, S.Yu.

Photoreduction and demethylation of thiazine dyes on silica ash.  
Dokl. AN SSSR 139 no.2:402-405 J1 '61.

(MIRA 14:7)

1. Predstavleno akademikom A.N. Tereninym.  
(Dyes and dyeing) (Thiazine) (Photochemistry)

S/195/62/003/002/002/003  
E039/E435

AUTHOR: Korsunovskiy, G.A.

TITLE: Surface effects on semiconductors  
(Second All-Union Conference on photoelectric and  
optical effects in semiconductors)

PERIODICAL: Kinetika i kataliz, v.3, no.2, 1962, 296-298

TEXT: The conference was held in L'vov (October 28 to  
November 3, 1961). The present review examines only papers  
devoted to surface effects on semiconductors. Many papers were  
concerned with the photoelectric and optical properties of ZnO.  
The authors mentioned in the review and the main topics of their  
papers are as follows: I.V.Levinson, L.I.Nyun'ko and  
I.Z.Plavina of Nauchno-issledovatel'skiy institut elektrografii  
LitSSR (Scientific Research Institute for Electrography LitSSR)  
investigated the fall of potential of the electrographic layer of  
ZnO with illumination. S.M.Gorodetskiy of Khabarovskiy  
Pedagogicheskiy institut (Khabarovsk Pedagogic Institute)  
measured the change in contact potential between a thin film of  
ZnO and metallic vibrating electrodes after illumination.  
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Surface effects on ...

S/195/62/003/002/002/003  
E039/E435

V.A.Filimonov of Nauchno-issledovatel'skiy fizicheskiy institut LGU (Scientific Research Physics Institute LGU) examined infrared absorption of polycrystalline samples of the oxides of n-semiconductors,  $ZnO$ ,  $TiO_2$ ,  $SnO_2$  and  $WO_3$ . G.A.Korsunovskiy of Gosudarstvennyy opticheskiy institut (State Optical Institute) measured the coefficient of diffuse reflection from polycrystalline  $ZnO$  and determined the excess zinc content. Yu.P.Solonitsyn (Scientific Research Physics Institute LGU) confirmed the adsorption-desorption mechanism for the change of electrical conductivity with illumination of  $ZnO$  in oxygen. This work was continued by F.F.Vol'kenshteyn and I.V.Karpenko of Institut fizicheskoy khimii AN SSSR and MGU (Institute of Physical Chemistry, AS USSR and MGU). V.A.Izvozhikova of Leningradskiy gosudarstvennyy pedagogicheskiy institut (Leningrad State Pedagogic Institute) studied the changes in surface electrical conductivity and photoconductivity of lead oxide and its dependence on the surrounding gas. Yu.P.Solonitsyn investigated  $TiO_2$  manometrically for adsorption with hydrogen molecules as donor particles and oxygen molecules as acceptors.

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Surface effects on ...

S/195/62/003/002/002/003  
E039/E435

D.V.Chepur, I.F.Kopinets, N.I.Dovgoshey and I.D.Turyanitsa of Uzhgorodskiy gosuniversitet (Uzhgorod State University) investigated photoconductivity and absorption spectra of mercuric iodide and their dependence on admixtures in surrounding gas. I.A.Berezhna (State Optical Institute) simultaneously measured the dark electrical conductivity and the concentration and mobility of current carriers in p-semiconductor lead sulphide and their dependence on the surrounding gas. V.M.Fridkin of Institut kristallografii AN SSSR (Institute of Crystallography AS USSR) investigated the luminosity of charged ZnS with the imposition of an inverse electric field. I.K.Vereshchagin and I.T.Drapak of Chernovitskiy gosuniversitet (Chernovits State University) showed that the electroluminescence of ZnO is strongly dependent on the surrounding gas. Yu.I.Karkhanin and G.P.Pek of Kiyevskiy gosuniversitet (Kiyev State University) investigated the luminescence of copper oxide excited by electric fields. Finally, F.F.Vol'kenshteyn, A.N.Gorban' and V.A.Sokolov of Institut fizicheskoy khimii AN SSSR and Tomskiy gosuniversitet (Institute of Physical Chemistry AS USSR

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16615  
S/181/62/004/004/019/042  
B104/B108

AUTHOR: Korsunovskiy, G. A.

TITLE: Mechanism of the increase in electrical conductivity of zinc oxide under exposure to light

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 968 - 971

TEXT: The purpose of the present study is the experimental proof of a photochemical conversion of zinc oxide. A thin layer of zinc oxide powder suspended in alcohol was applied to a glass plate with electrodes. Magnesium oxide was applied to the other side of the plate. The plate was placed into an evacuated glass container and irradiated from an incandescent lamp. The spectra of diffusion reflection from zinc oxide and magnesium oxide were recorded with a DFE-12 (DFS-12) spectrophotometer (370-420 mμ). Changes in the reflection spectrum from a mercury-vapor lamp were examined with two СБ-3 (STsV-3) photoelectric cells. One of these served to measure the reflected radiation, the other to measure the radiation coming from the mercury lamp. Changes in the content of excess zinc in zinc

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Mechanism of the increase in ...

S/181/62/004/004/019/042  
B104/B108

oxide powder were determined with the simplified method of H. J. Allsop (Analyst, 82, 474, 1957). It could be proved that the concentration of donor impurities in zinc oxide did not depend on irradiation. The results are evidence of the adsorption-desorption mechanism of the electrical conductivity variations of zinc oxide. Academician A. N. Terenin is thanked for his interest. There are 3 figures and 1 table. f

ASSOCIATION: Gosudarstvennyy opticheskiy institut im. S. I. Vavilova, Leningrad (State Institute of Optics imeni S. I. Vavilov, Leningrad)

SUBMITTED: November 30, 1961

Card 2/2

KORSUNOVSKIY, G.A.; LEBEDEV, Yu.S. (Leningrad)

Effect of some physicochemical factors on the photochemical  
formation of hydrogen peroxide on zinc oxide. Zhur. fiz. khim.  
35 no.5:1078-1085 My '61. (MIRA 16:7)

(Hydrogen peroxide)  
(Photochemistry)

KOTLER, R.I.; KRIKUNOV, G.N.; KORSUNSKAYA, G.A.

Classification by the perhydrol method the tendency of Karaganda coals  
toward spontaneous combustion. Nauch. trudy KNIUI no.16:42-47 '64.  
(MIRA 18:7)

KORSUNOVSKIY, G.A.

Photoreduction of silver ions on zinc oxide. Zhur. fiz.  
khim. 39 no.9:2136-2141 S '65. (MIRA 18:10)

9,4300(1138,1147,1164)

26.2421

С. 104

S/181/61/003/005/009/042  
B101/B214

AUTHORS: Korsunovskiy, M. I., Pastushuk, N. S., and Mokhov, G. D.

TITLE: Exclusion of the influence of non-photoconductive layers in the investigation of the photoconductivity of layers of amorphous selenium with mercury impurity

PERIODICAL: Fizika tverdogo tela, v. 3, no. 5, 1961, 1366-1370

TEXT: Amorphous selenium treated with mercury vapor shows an anomalous lux-ampere characteristic. The maximum photoeffect tends to a constant saturation value. From this the interference is drawn that the samples studied possess a non-photoactive resistance  $r_0$ . The object of the present work was to detect its existence. A start is made from the fact that the experimentally measured resistance  $r$  can be put as  $r_{ph} + r_0$ , where  $r_{ph}$  is the resistance that alters with exposure. Let  $\Delta\sigma$  be the observed change of conductivity;  $\sigma_{ph}$  its true value; and  $\sigma_0$ ,  $\sigma_{ph}$  the dark conductivity of the non-photoactive, and the photoactive part, respectively. Then 
$$\Delta\sigma = \Delta\sigma_{ph}/r^2\sigma_{ph}^2 (1 + \Delta\sigma_{ph}/r\sigma_0\sigma_{ph}) \quad (1).$$
 Since  $\Delta\sigma_{ph} = f(I)$  ( $I$  - intensity

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S/181/61/003/005/009/042  
B101/B214

Exclusion of the influence ...

of light) it is written:  $\Delta\sigma = f(I)/r^2\sigma_{ph}^2 [1 + f(I)/r\sigma_0\sigma_{ph}]$  (2). For  $\Delta\sigma = \Delta\sigma_{max}$ :  $1/\Delta\sigma_{max} = (r^2/r_{ph}^2) [1/f(I)] + r_0r/r_{ph}$  holds (3). Introducing  $a = r^2/r_{ph}^2$ ,  $b = r_0r/r_{ph}$  (4) one obtains:  $1/\Delta\sigma_{max} = a/f(I) + b$  (5). If the function  $1/\Delta\sigma_{max} = 1/f(I)$  becomes linear, a and b can be calculated and  $r_0$  and  $r_{ph}$  determined from them. 1) For typical samples for which the change of resistance  $(\Delta r/r) \cdot 100\%$  corresponds to a  $\Delta\sigma_{max}$  of 20-30%,  $1/\Delta\sigma_{max} = \varphi[1/f(I)]$  was determined at 360-460, 600-720 mμ (Fig. 2). The existence of the non-photoactive resistance  $r_0$  was thus confirmed. For intensities  $10^{-5}$ - $10^{-3}$  w/cm<sup>2</sup> the condition  $\Delta\sigma_{ph max} = \alpha\sqrt{I}$  is satisfied. The real photoeffect  $\Delta\sigma_{ph max}$  is several times larger than the observed  $\Delta\sigma_{max}$  and is masked by  $r_0$ . Experiments were undertaken to obtain samples with small  $r_0$ . [Abstracter's note: The method of these experiments is not given]

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Exclusion of the influence ...

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The results are random and uncontrollable. Nevertheless, some samples could be obtained for which  $\Delta\sigma_{\text{max}}$  differs but little from  $\Delta\sigma_{\text{ph max}}$  and  $(\Delta r/r) \cdot 100\%$  at  $2.5 \cdot 10^{-6} \text{ w/cm}^2$  reaches a value of 85-97%. The table gives results of measurement in the range 360-460 mμ. The samples investigated remained unchanged for two years under atmospheric conditions and gave reproducible results. There are 6 figures, 1 table, and 2 Soviet-bloc references.

ASSOCIATION: Khar'kovskiy politekhnicheskii institut imeni V. I. Lenina  
(Khar'kov Polytechnic Institute imeni V. I. Lenin)

SUBMITTED: April 1, 1960 (initially); January 20, 1961 (after revision)

Номер образца (ш)	R, см	$\frac{r_0}{r}$	$\frac{r_0}{r}$	$\frac{\Delta\sigma_m}{\sigma}$	$\frac{\Delta\sigma_m}{\sigma}$	$\frac{\Delta\sigma_m}{\sigma}$ on -1. m -1
2	$7.40 \cdot 10^3$	0.58	0.42	0.63	11.40	$6.55 \cdot 10^{-3}$
3	$2.17 \cdot 10^3$	0.65	0.35	0.36	3.25	$13.00 \cdot 10^{-3}$
56	$1.41 \cdot 10^3$	0.11	0.89	5.43	23.6	$0.68 \cdot 10^{-3}$
6	$10.12 \cdot 10^3$	0.003	0.997	50.50	53.50	$0.77 \cdot 10^{-3}$

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L 22546-65 EWT(1)/EWG(k)/EWT(m)/EEC(t)/T/EWP(t)/EWP(b) IJP(c) AT/JD

ACCESSION NR: AP4043100

S/0185/64/009/007/0807/0810

AUTHORS: Korsuns'ka, N.Ye. (Korsunskaya, N.Ye.); Sal'kov, Ye.A.; Chernovolenko, A.A.; Sheynkman, M.K.

TITLE: Determining the quantum yield of the intrinsic photoeffect in CdS-monocrystals using short impulse light

SOURCE: Ukrayins'ky fizychny zhurnal, v. 9, no. 7, 1964, 807-810

TOPIC TAGS: CdS monocrystal, photocurrent quantum yield, photo-sensitivity, fast recombination channel, recombination channel operating time, cadmium sulfide

ABSTRACT: The phenomenological quantum yield of the photocurrent in CdS monocrystals, illuminated by light impulses of  $2 \times 10^{-7}$  sec. duration and constant intensity was measured at 300K. Wave length was varied from 480-520  $\mu$ m. The yield was determined as the ratio of the total of the photoelectrons available in the sample at the end of the light impulse action to the total number of quanta absorbed in the crystal. The latter was determined with the help of photo-amplifier FEY-18A calibrated against an absolutely black background. The value of the measured yield was near unity in different photo-

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L 22546-65

ACCESSION NR: AP4043100

sensitive crystals (0.6-1) and did not depend on  $\lambda$ . At the same time the yield, measured upon illumination of these same crystals with light impulse  $\tau = 10^{-4}$  sec. was several times smaller. Thus the obtained data confirmed that the operating time of the fast recombination channel  $\tau$  was within the limits  $10^{-5}$  sec  $> \tau > 2 \times 10^{-7}$  sec. "The authors sincerely thank V.E. Lashkar'ov, member of the AN URSR, for attention to and discussion of the work." Orig. art. has 3 equations and 3 tables. 2

ASSOCIATION: Instytut napivprovidnykh AN URSR, Kiev (Institute of Semiconductors, AN URSR)

RECEIVED: COMar64

ENCL. 10

SS, P

NR REF SOV: 007

OTHER: 000

Card 2/2

L 1561-66 ENT(1)/ENT(m)/T/ENP(t)/ENP(b)/EWA(c) IJP(c) GG/JD

ACCESSION NR: AP5018642

UR/0185/65/010/007/0808/0809

AUTHORS: Halushka, O. P.; Yermolovych, I. B.; Korsuns'ka, N. Ya;  
Konozenko, I. D.; Sheynkman, M. K.

TITLE: Some properties of CdS single crystals grown by zone sublimation

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 10, no. 7, 1965, 808-809

TOPIC TAGS: cadmium sulfide, optic activity, activated crystal, single crystal growing, electron trapping, recombination luminescence, luminescence quenching

ABSTRACT: The mobility measurements of majority carriers and activation energies of trapping levels, the infrared quenching of the photocurrent, the concentration of slow recombination r-centers and their electron capture cross section were investigated in single crystals of CdS obtained by zone sublimation. The crystals were cut from a large single crystal parallel to the (1010) and (1120) planes in the

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L 1561-66

ACCESSION NR: AP5018642

form of parallelepipeds and polished with an etching solution. The mobility of the majority carriers was measured with the aid of the Hall effect in light and darkness from 100 to 350 K. At room temperature the mobility varied between 70--320 cm<sup>2</sup>/v-sec for different samples, there being as a rule no difference between measurements under illumination and in darkness. With decreasing temperature the mobility increased initially. After that the mobility changed little with temperature. At about 220--250K the curves of the temperature dependence of the mobility under illumination and in darkness coalesce. At low temperatures the mobility is lower under illumination. This is apparently connected with the appreciable scattering by ionized impurities and microinhomogeneities. The occupancy of the centers changes upon illumination. The thermally stimulated conductivity was also measured. In thick single crystals trapping levels were found with activation energies 0.13--0.16 and 0.42--0.46 eV and concentrations of  $8 \times 10^{13}$  and  $3 \times 10^{15}$  cm<sup>-3</sup>. The filling of these centers with electrons on lowering the temperature affected the mobility. The concentration of deep recombination levels and their electron capture cross section was measured by the method of light 'shock.' The

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L 1561-66

ACCESSION NR: AP5018642

concentrations were found to be  $4 \times 10^{14}$  --  $8 \times 10^{14} \text{ cm}^{-3}$ . The electron capture cross sections of these recombination centers, determined from the infrared photocurrent quenching spectra exhibited two maxima (at 1.5 and 0.9 eV). The spectra were shifted somewhat towards shorter wavelengths. The slow recombination r-centers are apparently the same in thick as in thin CdS crystals. Orig. article has: 2 figures. 6

ASSOCIATION: Instytut fizyki AN URSR [Institut fiziki AN UkrSSR] (Institute of Physics, AN UkrSSR); ~~Instytut~~ Instytut napivorpvidnykiv AN URSR, Kiev [Institut poluprovodnikov AN UkrSSR] (Institute of Semiconductors, AN UkrSSR) 44.55

SUBMITTED: 24Mar65

ENCL: 00

SUB CODE: SS, OP

NR REF SOV: 003

OTHER: 002

Card 3/3

MISKIDZH'YAN, S.P.; KORSUNSKAYA, A.I.

Study of the formation of electrolytic compounds from nonelectrolytes.  
Zhur. fiz. khim. 39 no.5:1143-1149 My '65. (MIRA 18:8)

1. L'vovskiy meditsinskiy institut.



KORSUNSKAYA, A.L.; MISKIDZH'YAN, S.P.; PASTUSHENKO, A.A.

Conducting noneaqueous systems formed by nonconducting components.  
Elektrekhimia 1 no.7:800-805 J1 '65. (MIRA 18:10)

1. L'vovskiy gosudarstvennyy meditsinskiy institut.

L 40569-65 INT(4)/ZWP(7)/ENP(6)/ENP(1)/ENP(1) Pt-4

ACCESSION NR: AP5002403

S/0143/64/000/012/0007/0012

AUTHOR: Korsunskiy, M. I. (Academician AN KazSSR, Doctor of physico-mathematical sciences, Professor); Lagunov, A. S. (Candidate of technical sciences, Docent); Bayvel', L. P. (Engineer) 18  
17  
B

TITLE: Effect of the speed of the surface closing a magnetic flux upon induction devices which control the operation of a power plant

SOURCE: IVUZ. Energetika, no. 12, 1964, 7-12

TOPIC TAGS: power turbine, induction sensor 0

ABSTRACT: It had been noticed that in some cases, when the magnetic flux of an induction sensor was closed by a moving surface (as in a turbine), the reading of the recorder connected to the sensor depended on the speed of motion of the surface. An experimental outfit consisting of two induction sensors (sketch presented) and an adjustable-rpm air turbine was built to investigate the above

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L 40569-65

ACCESSION NR: AP5002403

phenomenon. The turbine carried a disk which rotated between the two sensors at a speed of up to 200 m/sec (15,000 rpm). Tests were conducted with various disk speeds, gaps, and magnetic flux densities. It was found that the increase in the disk speed is equivalent to an increase in the gap (by 10-60%). For a given speed, the above effect is lower for lower magnetic field strength. For a given induction sensor, smaller actual gaps show a higher sensitivity to speed than larger gaps. It is recommended that the induction sensors used in power turbines be calibrated for speed. Orig. art. has: 3 figures, 4 formulas, and 3 tables.

ASSOCIATION: Khar'kovskiy politekhnicheskii institut im. V. I. Lenina  
(Khar'kov Polytechnic Institute)

SUBMITTED: 10Feb64

ENCL: 00

SUB CODE: PR, EM

NO REF SOV: 003

OTHER: 000

Card 2/2

B12

YERSHOVA, L.P., inzh.; KORSUNSKAYA, A.I., inzh.; Prinimali uchastiye: KOLOV, M.I.;  
NEKHOROSHIKH, Yu. M.; MEZENTSEV, G.V.

Nonuniformity of magnetic properties in a stack of electrical steel  
sheets. Stal' 21 no.6:546-548 Je '61. (MIRA 14:5)

1. Magnitogorskiy metallurgicheskiy kombinat.  
(Sheet steel—Magnetic properties)

MISKIDZH'YAN, S.P.; KORSUNSKAYA, A.L.

Study of current-conducting nonaqueous systems formed from nonconducting components. Part 5. Zhur.fiz.khim. 37 no.10:2293-2296 0 '63.

(MIRA 17:2)

1. L'vovskiy meditsinskiy institut.

MISKIDZH'YAN, S.P.; KORSI NSKAYA, A.I.

Conducting binary nonaqueous systems in a third component. Zhur.  
fiz. khim. 38 no.7:1743-1749 J1 '64.

(MIRA 18:3)

1. L'vovskiy meditsinskiy institut.

KORSUNSKAYA, B. D.

"Ovladeniye glukhimi det'mi analiticheskim vospriyatiem slova - kak usloviye formirovaniya u nikh slovesnogo obshcheniya."

report submitted for 15th Intl Cong, Intl Assn of Applied Psychology, Ljubljana, Yugoslavia, 2-8 Aug 1964.

Institut defektologii, Moskva.

KORSUNSKAYA, G. V.

TA 29D45

USSR/Geography  
Geomorphology

Jul/Aug 1947

"Geomorphology of the Kuriles," G. V. Korsunskaya,  
2 pp

"Iz Vsesoyuz Geog Obshchestva" Vol LXXIX, No 4

This is a summary of an article which appeared in the Feb 1947 issue of a publication of the Maritime Kray Branch of the Geographic Society of the USSR, as a result of data collected during the 1946 expedition undertaken by the Branch to the Kurile Archipelago. Gives some very basic geomorphologic data, such as the shape of estuaries and height of some mountains.

LC

29D45



KORSUNSKAYA, G. V.

KORSUNSKAIA, G. V. Kuril'skie ostrova (Fiziko-geograficheskii ocherk). Vses. Ob-vo po rasprostr. polit. i nauchn. znani, Primorsk. kraev. otd. Vladivostok, Primizdat, 1948. 39 p.

So: LC, Soviet Geography, Part II, 1951/Unclassified.

KORSUNSKAYA, G. V.

21469

KORSUNSKAYA, G. V.

Geomorfologiya yuzhnykh ostrovov Kuril'skogo Arkhipelaga.  
Trudy Vtorogo Vsesoyuz. geogr. s"yezda. T. P.N., 1948, s. 59 - 68.  
Bibliogr: 5, NAZV.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

KORSUNSKAYA, G. V.

PA 10/49T69

USSR/Geology  
Volcanology

Jul/Aug 68

"Volcanoes in the Southern Kuriles," G. V.  
Korsunskaya, 9<sup>1</sup>/<sub>4</sub> PP

"Izv-s Geograf Obshch" Vol LXXX, No 4

Author took part in 1946 Kurile expedition  
organized by All-Union Geog Soc. Describes both  
active and passive volcanoes. Eight sketches.

10/49T69

KORSUNSKAYA, G.V.

~~Volcanoes of Simushir Island.~~ Biul. Vulk. sta. no. 24:61-64 (MLRA 9:10)  
'56.

(Simushir Island--Volcanoes)

KORSUNSKAYA, Galina Vasil'yevna; GRISHINA, L.I., red.; GLEBYKH, D.A., tekhn.  
red.

[Arc of the Kurile Islands; a study of their physical geography]  
Kuril'skaya ostrovnaya duga; fiziko-geograficheskiy ocherk. Moskva,  
Gos. izd-vo geogr. lit-ry, 1958. 222 p. (MIRA 11:10)  
(Kurile Islands)

KORSUNSKAYA, I.B., gidrogeolog

Underwater photography for the inspection of water intakes. Gidr. i  
(MIRA 18:4)  
no. 17 no. 1:43-48 Ja '65.

1. Ukrainskiy nauchno-issledovatel'skiy institut gidrotekhniki i  
melioratsii.

SOV/129-59-2-1/16

AUTHORS: Kuritsyna, A.D., Candidate of Technical Sciences,  
Korolev, F. V. and Korsunskaya, K.N., Engineers

TITLE: Diffusion Processes in the Bimetal "Steel-Aluminium  
Alloys" During Heat Treatment (Diffuzionnyye protsessy  
v bimetallo "stal'-alyuminiyevyye splavy" pri  
termicheskoy obrabotke)

PERIODICAL: Metallovedeniye i Termicheskaya Obrabotka Metallov,  
1959, Nr 2, pp 2-7 (USSR)

ABSTRACT: Anti-friction bimetal, used for producing liners of  
bearings of I.C. engines, is manufactured by rolling  
with high rates of reduction (50-60 to 80%) at room  
temperature and also at 250-300 °C, i.e. at temperatures  
below the hot working temperature of steel. As a result  
of this technological process the steel base of this  
bimetal strip becomes considerably hardened and, as can  
be seen from the graph, Fig 1, assumes a high anisotropy  
of its mechanical properties. This complicates  
considerably processes of stamping of bearing liners  
from such strip. Experience has shown that in order  
to re-establish the normal stamping properties of the  
liners, the bimetal strip should be annealed at a

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SOV/129-59-2-1/16

Diffusion Processes in the Bimetal "Steel-Aluminium Alloys"  
During Heat Treatment

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000825010008-7

temperature which ensures full recrystallization of the  
steel and complete re-establishment of its mechanical  
properties. However, such heat treatment would result  
in a loss of the adhesion between the steel and the  
aluminium alloy. Therefore, it is necessary to select  
the chemical composition of the sub-layer in such a way  
that annealing of the bimetallic strip is practicable.  
The authors investigated the progress of diffusion at  
the boundary between the steel and the aluminium alloy  
and its dependence on external factors, i.e. temperature  
and duration of holding at a given temperature and also  
the composition of the metals in contact. These studies  
were carried out at junction zones of Steel 08 with the  
alloy ASS-6-5 and of Steel 08 coated with aluminium AV00  
and the alloy ASS-6-5, the latter being a new aluminium  
base anti-friction alloy. In the second case the  
diffusion processes were studied at the boundary between  
the steel and the aluminium as well as at the boundary  
of the aluminium and the alloy ASS-6-5. The latter

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SOV/129-59-2-1/16

Diffusion Processes in the Bimetal "Steel-Aluminium Alloys"  
During Heat Treatment

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SOV/129-59-2-1/16  
Diffusion Processes in the Bimetal "Steel-Aluminium Alloys"  
During Heat Treatment

**This** results in the formation of an intermediate point-shaped layer of the reaction phase of a small thickness which depends on the non-uniformity of the real processes of plastic deformation. The second stage is characterized by the formation of additional interaction zones, which form as a result of an increase in the holding time or the temperature and a consequent slightly larger displacement of the atoms than in the first stage; this brings about formation of phases of iron aluminides in the form of a thin layer covering almost the entire surface of contact between the steel and the alloy (Fig 4). A further increase in temperature (550 to 600°C for the Steel 08-alloy ASS-6-5 and for Steel 08-pure aluminium) brings about the third stage of the process, which is associated with the higher speed of diffusion of aluminium in the layer of the new intermediate phase, whereby, in the aluminium layer there will be a relatively wide zone of loosened sections caused by unilateral diffusion and

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SOV/129-59-2-1/16

Diffusion Processes in the Bimetal "Steel-Aluminium Alloys"  
During Heat Treatment

it is this which produces the separation of the aluminium alloy from the iron aluminides which form as a result of diffusion. The fourth stage of the diffusion phenomena at the boundary steel-aluminium takes place at temperatures of 650°C and higher; at these temperatures there is a mutual diffusion between aluminium and iron but the diffusion of the aluminium is higher than the diffusion of the iron and the growing phase penetrates deep into the steel. The authors of this paper established experimentally that the speed of "reactive" diffusion at the contact zone iron-aluminium is influenced by silicon and antimony; antimony speeds up the reaction by reducing the initial temperature of the process to 510°C, whilst Si slows down the process. The authors also studied the influence on the speed of the diffusion processes of metals of the transient group (Ni, Mn, Co etc.), i.e. metals with variable valency in the alloys. In selecting alloying elements for increasing the critical temperature of formation of aluminides at the boundary of the two-phase region, the hypothesis of A. A. Bochvar (Ref 8) was taken into

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SOV129-59-2-1/16

Diffusion Processes in the Bimetal "Steel-Aluminium Alloys"  
During Heat Treatment

consideration, according to which diffusion processes will be the slower the more complex the composition and the structure of the rejected phases and the more these differ in composition and structure from the initial solid solution. For studying the relations governing diffusion the following additions to the aluminium were chosen: Mn, Mg, Cu, Ni, Fe, Si and the combinations of Si + Mn and Si + Co in various quantity ratios. These materials were cast, chemically analysed and, following that, the ingots were rolled into strip. Strip made of the Steel 08 was clad with these alloys and the clad metals were heat treated. During heating to 525°C for a duration of 30 mins flaking off of the aluminium layer occurred in the case of it being alloyed with Mn, Mg, Cu, Ni and Fe. If the heat treatment was effected at 575°C for 30 mins, flaking off was observed only for the alloys containing Si. Heat treatment at 575°C for four hours led to the formation of a layer in the case of the alloys Al-Si-Mn and, to a very slight

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SOV/129-59-2-1/16

Diffusion Processes in the Bimetal "Steel-Aluminium Alloys"  
During Heat Treatment

extent, in the case of alloys of aluminium with Si and Co. During 1956-1958 the authors repeatedly verified the influence of heat treatment on bimetal consisting of steel with a base of the following chemical composition: 0.5% Mn, 0.5% Si, rest Al. This bimetal strip was produced by cladding a strip of 10 + 0.1 mm thick ASS-6-5- alloy on one side with a 1 mm thick (steel) layer. This combination of total thickness of 11 mm was rolled to obtain a final combined thickness of 2 and 2.5 mm respectively. The first pass, with a reduction of 40% was effected in the cold state, the subsequent second and third passes down to the final dimension were effected after a re-heat to 250°C. The bimetallic strip produced by this method was investigated from the point of view of presence of an intermediate layer<sup>and</sup> of a hard and brittle phase of iron aluminides. Metallographic investigation of the zone of contact and of the sub-zone at an amplification of 1250 times showed complete absence of aluminides; diffusion of antimony

Card7/8 into the sub-layer could not be detected either. Results

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Diffusion Processes in the Bimetal "Steel-Aluminium Alloys"  
During Heat Treatment

obtained in testing the strength of the joint between the steel and the alloy after annealing confirmed the high quality of the strip produced by this method. There are 7 figures and 8 references, 7 of which are Soviet, 1 English.

ASSOCIATION: Institut Mashinovedeniya AN SSSR (Institute of Mechanical Engineering, Ac.Sc., USSR) and Moskovskiy metalloprokatnyy zavod (Moscow Metal Rolling Works)

Card 8/8

S/122/60/000/012/003/018  
A161/A130

AUTHORS: Rudnitskiy, N. M.; Kuritsyna, A. D., Candidates of Technical Sciences; Korolev, P. V., and Korsunskaya, K. N., Engineers

TITLE: Investigation of steel - high-Sn aluminum alloy bimetal

PERIODICAL: Vestnik mashinostroyeniya, no. 12, 1960, 33 - 35

TEXT: The aluminum-base bearing alloy most-used in the USSR is ACM(ASM) that, like other of this kind, is comparatively cheap, has high resistance to fatigue pitting and corrosion, but can only be used for low-speed shafts because of scoring at insufficient lubrication. The ASM is used for tractor engine crankshaft bearings with 2,000 rpm, but was a failure in automobile crankshafts. The authors point out that the problem can be solved by coating aluminum alloy with a special "work-in" 15 - 20 micron layer of an alloy of lead with tin or with indium, or simply pure tin, as is practiced by General Motors, U.S.A.. Bearings with bushings coated with aluminum alloy with 20 and 30% Sn had been tested in 1959 on "Pobeda" cars, and wear of crankshaft journals was same as in work with babbitt-lined bearings, but the bond of lining with the base was poor and the coating layer separated after 20 - 40 thousand km, despite an interlayer of AMK(AMK) al-

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S/122/60/030/012/008/018

Investigation of steel - high-Sn aluminum alloy bimetal A161/A130

loy. The AMK alloy contains (%): 0.5 - 1.0 Si; 0.5 - 1.0 Mn, the rest is Al. It was stated in experiments that rolling with 60 - 80% reduction practically did not have any effect on the bond, and rolling with higher reduction destroyed bimetal; annealing of bimetal with Sn in aluminum antifriction alloy weakened bond. Raised Sn content in antifriction alloy had a strong negative effect on the bond. The experimental data demonstrated that bond between high-Sn aluminum and base can be considerably improved by reducing the Sn content in the surface of blanks preliminarily to rolling together with base. The authors have developed a method for squeezing liquid Sn out of about 1 mm deep surface layer of high-Sn aluminum alloy at 300 - 400°C. The result is Sn content in the surface reduced from 20 - 30% to 2 - 3%, and Sn distribution in metal as shown in Fig. 3. This alloy contained 20% Sn, the curve shows Sn distribution in 1 mm depth on the surface. Annealing at 550°C needed for recrystallization of steel band improved bond very much when the high-Sn layer was so treated, and mechanical strength in the joint was higher than of the antifriction alloy. Blanks of high-Sn aluminum alloy with a layer of AMK coated on were annealed at 350°C and rolled together with armco iron with about 60% reduction. Bimetal bands were subsequently finally rolled to gage and annealed at 500 - 570°C to recrystallize steel. It is expected that the method will make aluminum antifriction alloys applicable for a wider range of friction couples.

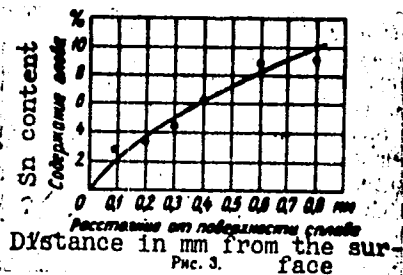
Card 2/3

Investigation of steel - high-Sn aluminum alloy bimetal

S/122/60/000/012/608/018  
A161/A130.

Addition of other metals (e.g., copper) is suggested for applications where the fatigue resistance of binary Al-Sn alloys is not sufficient. There are 3 figures and 1 Soviet-bloc reference..

Fig. 3.



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LAYNER, D.I.; BAZHENOVA, L.A.; AGAFONOVA, A.V., Prinimali uchastiye:  
PAKHOMOVA, Ye.F., inzh.; KORSUNSKAYA, K.N., inzh.

Effect of various additions on the modification and recrystallization  
temperature of zinc. Trudy Giprotsetmetobrabotka no.20:81-96  
'61. (MIRA 15:2)

(Zinc--Metallurgy) (Crystallization)



89421

18.1200

S/136/61/000/002/002/006  
E021/E335

AUTHORS: Kuritsyna, A.D., Korolev, F.V., Korsunskaya, K.N.  
and Rudnitskiy, N.M.

TITLE: The Technology of the Production of a Bimetal of  
Aluminium Antifriction Alloys and Steel

PERIODICAL: Tavetnyye metally, 1961, <sup>34</sup>No. 2, pp. 66 - 68

TEXT: The technology of the process of producing bimetals of steel and high-tin aluminium alloys was investigated and a comparison of the technological properties of antifriction aluminium and intermediate alloys was given. A semicontinuous method of casting was tried. The table gives the compositions and conditions used. Melting was carried out in a high-frequency furnace. The weight of the melt was 70 - 80 kg and billets 70 x 260 mm were cast. The rate of casting was 10 - 13 m/h except for pure aluminium which had a rate of 3 m/h. The billets were water-cooled. Pouring was carried out through a funnel with a 12 mm diameter hole. From the results it was shown that the high-tin alloys and the Moren 400 alloys had good casting properties and a low  
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The Technology of ....

S/136/61/000/002/002/006  
E021/E335

temperature of casting. The billets were rolled to 10 mm strip. The surface had no porosity or cracks before rolling. Alloys with 20 and 30% tin were cold-rolled. Reduction of the first pass was 10% and on subsequent passes - 15%. The remaining alloys were hot-rolled after holding at 450 °C for two hours. Moren 400 alloy exhibited hot shortness during hot rolling, and deep cracks when cold-rolled. It was shown that to produce a good joint in the bimetal, the tin content on the surface of the high-tin alloys should be decreased. The alloys were hot-rolled with AMK alloy with reduction of 70% on the first pass and 28% on the second pass to give a good joint, and subsequently rolled to 2 mm. The strength of the joint between the alloy and AMK alloy was tested before forming a bimetal with steel by heating to 550 °C for 30 minutes. Steel strip 6 mm thick was used for the bimetal. The joint between the steel and the AMK alloy was produced by a first pass in the cold state with 60% reduction, a second pass with 30% reduction, and then it was cold-rolled to 1.9 mm. The joint was tested by heating  
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E021/E335

The Technology of ....

to 550-570 °C for 10-30 minutes. The strip produced in this way was used for the production of bushings for bearings in experimental ГАЗ (GAZ) and ЗИЛ (ZIL) motors. There are 1 table and 2 Soviet references.

Table: The Composition of Alloys and the Regime of Casting of Aluminium Alloys

Name of Alloy	Chemical Composition		Casting temperature, °C	Rate of drop of billet, m/h	Pressure of cooling water, atm.
	Charge	Billet			
Pure Al АВ000 (AV000)	-	Cu-0.0016 Fe-0.04 Si-0.04 Al- rest	800	3	0.8
High-tin alloy Card 3/4	Sn-20 Al-rest	Sn-17.32 Al-rest	740	13	0.8

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The Technology of ....

S/136/61/000/002/002/006  
E021/E335

High-tin alloy	Sn-30	Sn-26.3	740	10	0.8
Moren 400	Al-rest	Al-rest			
	Si-4	Si-4.26	800	10	0.8
	Cd-0.5	Sn-0.13			
	Al-rest	Cd-0.50			
		Al-rest			
AMK	Mn-0.5	Mn-0.5	780	9-10	0.8
	Si-0.5	Si-0.8			
	Al-rest	Al-rest			
ACC 6-5	Sb-6	Sb-4.57	920*	9-10	0.9
(ASS 6-5)	Pb-5	Pb-4.52			
	Mg-0.5	Mg-0.94			
	Al-rest	Al-rest			
Moren 400	Si-4	Si-3.8	800	10	0.9
(Moren 400)	Al-rest	Al-rest			

\* Antimony added to aluminium heated to 1 000 °C.

Card 4/4

CHIZHIKOV, D.M. (Moskva); KORSHINSKAYA, V.N. (Moskva)

Chlorination of titanium-bearing materials. Izv. AN SSSR. Otd. tekhn.  
Mekh. i fiz. 1977, 2, S. 10-11. (MIRA 15:10)  
(Titanium compounds) (Chlorination)

S/129/62/000/010/001/006  
E193/E383

**AUTHORS:** Kuritsyna, A.D., Candidate of Technical Sciences,  
Rudnitskiy, N.M., Korolev, F.V. and Korsunskaya, K.N.,  
Engineers

**TITLE:** Influence of the treatment of certain bimetallic  
materials on the bond strength

**PERIODICAL:** Metallovedeniye i termicheskaya obrabotka metallov,  
no. 10, 1962, 8 - 11

**TEXT:** The object of the present investigation was to study  
the effect of annealing on the strength of bond between the  
components of various bimetallic strips fabricated by the usual  
pressure-welding (cold-rolling) method. The following were  
included in the experimental materials: pure aluminium; alloy  
AMK (Al-0.5% Si-0.5% Mn); Al-20% Sn alloy: Moren-400 (Al-4% Si);  
ASS-6-5 (ASS-6-5) alloy (Al-6% Sb-5% Pb-0.5% Mg). In the first  
series of experiments the Al/Al, Al/Al-20% Sn and Al-20% Sn/AMK  
bimetal strips were studied, the last of these being fabricated  
with and without a treatment which entailed tinning of the  
Al-20% Sn alloy surface with tin squeezed out of the alloy itself.  
Card 1/3

Influence of the treatment .... S/129/62/000/010/001/006  
E193/E383

Wedge-shaped sandwiches were used in every case so that the reduction in the first rolling-pass varied from 40% at one end of the strip to 80% at the other, a uniform reduction of 36% being given in the second pass. Shear-strength tests were carried out on suitably prepared bimetal specimens, both in the as-rolled condition and after 30 min annealing at 350, 450 and 550 °C. The shear strength of each individual metal given similar treatment was also determined. The results can be summarized as follows:

- 1) the shear-strength of cold-worked pure aluminium was not affected by the annealing, that of the AMK alloy increased from 8.3 kg/mm<sup>2</sup> after rolling, to 11 kg/mm<sup>2</sup> after annealing at 550 °C, the corresponding figures for the Al-20% Sn alloy being 7 and 5 kg/mm<sup>2</sup>;
- 2) the shear strength of the bond in bimetal specimens after any given treatment corresponded to the strength of the weaker component given similar treatment; the AMK/Al-20% Sn bimetal strip prepared without surface-tinning treatment was an exception, its strength falling rapidly with increasing annealing temperature (8.4 kg/mm<sup>2</sup> after rolling, 2.8 kg/mm<sup>2</sup> after annealing at 550 °C);
- 3) the bond strength of the bimetal specimens was not

Card 2/3

ACCESSION NR: AP4005832

S/0129/63/000/012/0039/0041

AUTHOR: Kuritsy\*na, A. D.; Rudnitskiy, N. M.; Korolev, F. V.;  
Korsunskaya, K. N.

TITLE: Structure and properties of heat-treated aluminum-tin antifriction alloy

SOURCE: Metalloved. i termich. obrab. metallov, no. 12, 1963, 39-41

TOPIC TAGS: aluminum tin alloy, antifriction aluminum alloy; antifriction alloy, alloy structure, alloyproperty

ABSTRACT: Sully's study (A. Sully, "Journal of Institute of Metals", 1949, v. 76) pertaining to the structure and properties of heat-treated aluminum tin antifriction alloys which has applications in bearing for carburetor-type engines was reexamined. The microstructure examination showed that cast structure falls in proportion to increase in shrinkage which produced a very fine stannous eutectic. Observation with respect to sweating indicates that tin

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ACCESSION NR: AP4005832

sweating decreases parallel to the increase of shrinkage during annealing. A vigorous sweating of tin with large droplet formation can be observed with weakly deformed cast samples during annealing at 350C and holding time of 30 minutes. Alloys with 99% shrinkage can be annealed at 550-570C without high tin losses. Mechanical properties of alloys with 20 and 30% Sn have a high ductility after final shrinkage (99%) which increases after annealing at 350C (the aluminum grain recrystallization temperature). Application of high degrees of deformation (99%) for Al alloys containing more than 20% Sn assures a discrete distribution of the stannous phase after annealing at 550-570C with a holding time of 30 minutes. Orig. art. has: 2 figures.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 09Jan64

ENCL: 03

SUB CODE: ML, MA

NO REF SOV: 000

OTHER: 001

Card 2/2

ACCESSION NR: AR4027669

S/0276/64/000/001/B069/B069

SOURCE: RZh. Tekhnologiya mashinostroyeniya, Abs. 1B354

AUTHOR: Chipizhenko, A. I.; Iyedlinskaya, Z. M.; Korsunskaya, K. M.

TITLE: Dependence of the size and homogeneity of beryllium bronze on technological processing parameters 1963, 17-23

CITED SOURCE: Tr. Gos.n.-i. i proyekt. in-ta splayov i obrabotki tsvetn.met.v21,

TOPIC TAGS: bronze, beryllium bronze, grain size, alloy homogeneity, alloy grain size

TRANSLATION: The authors report that the furnaces used in plants for the heating of beryllium bronze in an ammonia atmosphere, as well as shaft furnaces, do not provide uniform heating of the metal. This excludes the possibility of obtaining a homogeneous structure and consistent mechanical properties in the finished products. The high-quality heating of bronze requires the use of short-term heating in continuous furnaces. The most homogeneous structures and properties of bronze may be obtained through rolling with reduction not less than 65% (with rolling performed prior to tempering). 16 illustrations. Bibliography

Card 1/2

ACCESSION NR: AR4027669

with 4 titles.

DATE ACQ: 03Mar64

SUB CODE: ML

ENCL: 00

Card 2/2

LYUBESHKIN, V.A.; KOROLEV, F.V.; KORSUNSKAYA, K.N.

Effect of deoxidizers on the mechanical properties of lead-containing  
nickel silver. TSvet. met. 36 no.1:61-66 Ja '63. (MIRA 16:5)  
(Copper-nickel-zinc alloys--Metallurgy)

22400-05 EWI(m)/EWA(d)/EWP(v)/SPR/T/EWP(t)/EWP(k)/EWP(b) Pf-4/Ps-4  
 ACCESSION NR: AP5000947 IJP(c) MJW/JD/HM S/0136/64/000/012/0083/0085

AUTHOR: Tikhonov, B.S., Korolev, F.V., Korsunskaya, K.N.

TITLE: Sheets and strips of brand 34A solder for soldering aluminum and its alloys

SOURCE: Tsvetnyye metalli, no. 12, 1964, 83-85

TOPIC TAGS: aluminum, aluminum solder, aluminum alloy soldering, solder rolling, aluminum soldering, silumin/solder 34A

ABSTRACT: Solder 34A is a common material for soldering aluminum and its alloys but it is difficult to use since it cannot be produced in the form of wire or foil owing to its low plasticity. Therefore a method was devised for producing the solder in the form of a three-layer foil which forms a ternary eutectic (6% Si, 28% Cu, and 66% Al) on melting. The solder 34A silumin (Si-Al alloy) and highly pure copper were used to produce the 34A solder as a three-ply rolled foil. The ratio of these starting materials was calculated on the basis of the parameters of the equipment and determined experimentally. The composition of the solder was 28-30% Cu, 4.5-7.0% Si, balance Al. The thickness of the foil for rolling was 13 mm. A thickness of 13 mm (12 mm silumin and 1 mm copper) was selected. Good welding together of the two metals during hot rolling was possible only if the contacting surfaces did not oxidize during heating. The copper, which oxidized at

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L 21206-65

ACCESSION NR: AP5000947

100C was covered on both sides with a thin layer of aluminum foil to protect the surface. The packs were preheated to 430-450C, hot rolled on a two-high mill, and reduced 65-70% in the first pass. A microinvestigation of the joint after cold rolling to 0.1 mm demonstrated that the heating and rolling conditions were proper since the weld was strong and the copper layer was not destroyed in spite of up to 98% deformation. The solder had maximum ductility ( $\delta = 21\%$ ) after annealing at 300C and holding for 30 min. *Fig. art. was: 1 table and 2 figures.*

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: IE, MT

NO REF SOV: 000

OTHER: 000

Card 2/2

17(2)  
AUTHORS:

SOV/20-128-4-56/65  
Krasil'nikov, N. A., Corresponding Member, AS USSR,  
Skryabin, G. K., Aseyeva, I. V., Korsunskaya, L. O.

TITLE:

Dehydrogenation in the 1,2 Position of Hydrocortisone by  
Means of Mycobacterium sp. Nr 193

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 4, pp 836-839  
(USSR)

ABSTRACT:

During the last years it has become possible to make use  
of microbiological processes for the production of hormones  
occurring in organisms: suprarenal gland, reproductive  
hormones, and their derivatives. New microbiological processes  
were developed for the production of cortisone (substance E),  
hydrocortisone (substance F) and their derivatives, on the  
basis of hydroxylation of progesterone into 11  $\alpha$ -oxy-proges-  
terone by microorganisms (Ref 2). Highly effective hormones,  
namely prednisone ( $\Delta E$ ) and prednisolone ( $\Delta F$ ) were industrial-  
ly obtained in good yields by means of *Corynebacterium simplex*.  
They are used for inflammations (Schering, USA, Ref 3). This  
method proved to be more simple and less expensive than  
chemical processes. *Actinomyces lavendulae*, bacterium cyclo-  
oxydans et al, during fermentation develop a mixture of dif-

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SOV/20-128-4-56/65

Dehydrogenation in the 1,2 Position of Hydrocortisone by Means of Mycobacterium sp. Nr 193

ferent steroids. An industrial production of  $\Delta E$  and  $\Delta F$  is difficult, due to the necessary separation of this mixture. The authors made investigations in order to find highly active microorganisms which are able to transform biologically hydrocortisone (I) and prednisolone (II). The most productive cultures were looked for in vegetable materials, decomposition products of the soil, in the oral cavity of man and animals, and in other natural, nutrient media, and numerous strains of Actinomycetes, fungi and bacteria were isolated. 10-15 mg of the initial steroid chemically produced, were added to 2 ml of 80% ethanol. The transformation of steroids was controlled by decreasing distribution chromatography (Ref 6). By means of this method cultures were obtained which are able to transform the initial substances into cortisone, hydrocortisone et al. The culture mentioned in the title actively caused the mentioned process and produced prednisolone and prednisone. "B" with 1% of yeast autolysate, 1% of glucose in distilled water proved to be the optimum medium for highest prednisolone yields (79%). After 5 hours the process is finished. If fermentation is continued, prednisolone decomposes. Figure 1 shows chromatograms of the transformation

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SOV/20-128-4-56/65

Dehydrogenation in the 1,2 Position of Hydrocortisone by Means of Mycobacterium sp. Nr 193

process. The quantitative yield was spectrophotometrically determined besides the identification of the final products. They were chemically isolated. Yu. N. Chirgadze (Institut biofiziki AN SSSR - Institute of Biophysics of the AS USSR) conducted the identification by means of infrared spectra (Fig 2). There are 2 figures and 6 references.

ASSOCIATION: Institut mikrobiologii Akademii nauk SSSR  
(Institute of Microbiology of the Academy of Sciences, USSR).  
Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: July 10, 1959

Card 3/3

AKIMOVA, L.N.; KORSUNSKAYA, L.O.

Effect of the combined protection of amine group in peptides on their properties. Zhur.ob.khim. 32 no.9:2809-2812 S '62.

(MIRA 15:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.  
(Peptides) (Amines)

KORSUNSKAYA, M. I.

"Dinamika fizicheskogo razvitiya detey doshkol'nogo vozrasta v SSSR."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,  
Moscow, 3-10 Aug 64.

KORSUNSKAYA, M. I. Dr. Med. Sci.

Dissertation: "Dynamics of the Physical Development of the Preschool-Age Children of Moscow. Central Inst. for Advanced Training of Physicians. 15 Apr 47.

SO: Vechernyaya Moskva, Apr, 1947 (Project #17836)

*Korsun'skaya, M.I.*

KORSUNSKAYA, M.I.

Dynamic control of the physical development of children in Moscow  
kindergartens. *Pediatrics* 35 no.12:40-45 D '57. (MIRA 11:2)

1. Iz kafedry shkol'noy gigiyeny Tsentral'nogo instituta usovershen-  
stvovaniya vrachey.  
(MOSCOW--GROWTH)

*KORSUNSKAYA, M.I.*

BOL'SHAKOVA, M.D., dots.; GOL'DFELD, A.Ya., doktor meditsinskikh nauk, red.;  
GORINEVSKAYA, V.V., prof. [deceased]; ~~KORSUNSKAYA, M.I., prof.~~;  
POLTEVA, Yu.K., kand. meditsinskikh nauk; LANDAU-TYLKINA, S.P., red.;  
BEL'CHIKOVA, Yu.S., tekhn. red.

[Manual for school physicians] Rukovodstvo dlia shkol'nykh vrachei.  
Moskva, Gos. izd-vo med. lit-ry, 1958. 353 p. (MIRA 11:12)  
(SCHOOLS, HYGIENE)  
(CHILDREN--CARE AND HYGIENE)

KOROTCHUKAYA, A. I.

*"Dynamics of physical development of children of preschool age in Moscow for the past 30 years."*

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

KORSUNSKAYA, M.I.; FOKINA, N.S.

A.V. Mol'kov one of the pioneers of Soviet school hygiene. Gig. i  
san. no. 10:7-12 0 '60. (MIRA 13:12)

1. Iz kafedry gigiyany detey i podrostkov TSentral'nogo instituta  
usovershenstvovaniya vrachey.

(SCHOOL HYGIENE)

(MOL'KOV, ALFRED VLADISLAVOVICH, 1870-)



KORSUNSKAYA, M.I., prof., red.; GENESSKAYA, R.I., red.; PRONINA,  
N.D., tekhn. red.

[Manual on hygiene for children and juveniles] Rukovodstvo po  
gigiyene detei i podrostkov. Moskva, Medgiz, 1962. 349 p.  
(MIRA 16:3)

(CHILDREN--CARE AND HYGIENE)  
(SCHOOL HYGIENE)

APPROVED

FOR RELEASE

L 10216-66 EWT(1)

ACC NR: AP5028471

SOURCE CODE: UR/0286/65/000/020/0044/0044

AUTHORS: <sup>44,55</sup> Zashkvara, V. V.; <sup>44,55</sup> Korsunskiy, M. I.; <sup>44,55</sup> Kosmachov, O. S.

ORG: none

TITLE: Analyzer of charged particles by their kinetic energies. Class 21, No. 175584

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 44

TOPIC TAGS: <sup>21,44,55</sup> particle detector, particle physics, kinetic energy

ABSTRACT: This Author Certificate presents an analyzer of charged particles by their kinetic energies. The analyzer contains two electrodes and a receiver (see Fig. 1). To increase the sensitivity, the electrodes have the form of two coaxial cylinders. The outer cylinder carries a charge of the same sign as the charge of the particles. The internal cylinder has two annular slits located between the source of the particles and the receiver. The source and the receiver, in turn,

Card 1/2

UDC: 621.384.83

L 10216-66

ACC NR: AP5028471

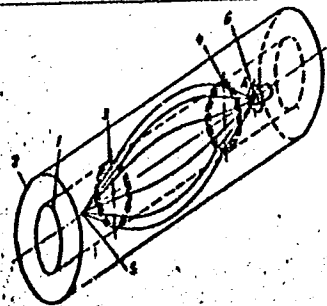


Fig. 1. 1 and 2 - Electrodes;  
3 and 4 - slits; 5 - particle  
source; 6 - receiver.

are placed on the axis of the cylinders. Orig. art. has: 1 figure.

SUB CODE: 20, 14/ SUBM DATE: 31Aug64

Card 2/2

L 36260-66 T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6018336

SOURCE CODE: GE/0030/66/013/001/0025/0036

AUTHOR: Korsunskaya, N. E.; Markevich, I. V.; Sheinkman, M. K.

ORG: Institute of Semiconductors, Academy of Sciences of the Ukrainian SSR, Kiev

TITLE: Photochemical reactions in <sup>21</sup>CdS <sup>21</sup>single crystals at low temperatures

SOURCE: Physica status solidi, v. 13, no. 1, 1966, 25-36

TOPIC TAGS: photoconductivity, recombination reaction, electron trapping, low temperature effect, ~~photochemical reaction~~, cadmium sulfide, crystal, ~~glow curves~~, ~~recombination center~~, photochemistry

ABSTRACT: The investigation of glow curves under various illumination conditions in cadmium sulfide single crystals (previously annealed at high temperatures) shows that the photochemical formation of new trapping centers arises at +20 to -100C. In the same temperature range, the new "sensitizing" recombination centers, having small capture cross sections for electrons, also arise due to the photo-

Card 1/2

ACC NR. AP6036785

(A)

SOURCE CODE: UR/0363/66/002/011/1948/1952

AUTHOR: Korsunskaya, N. Ye.; Lebedeva, N. N.; Mirzoyev, B. R.; Sheynkman, M. K.

ORG: Institute for Semiconductors AN SSSR (Institut poluprovodnikov AN SSSR); Azerbaidzhan State University im. S. M. Kirov (Azerbaydzhanskiy gosudarstvennyy universitet)

TITLE: Production and semiconducting properties of single crystal of  $\text{In}_4\text{S}_5$ 

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 11, 1966, 1948-1952

TOPIC TAGS: semiconductor single crystal, indium compound, sulfide

ABSTRACT: The  $\text{In}_4\text{S}_5$  used in the experiments was synthesized in a quartz ampoule evacuated to  $0.133 \text{ newtons/m}^2$ , in a horizontal tubular furnace whose temperature was automatically regulated with a EPP-09 instrument. Visual observations and thermographic recordings show that at a temperature of  $600^\circ$  there is a rapid exothermic reaction between indium and sulfur with the formation of a solid reaction product. The temperature is then raised to  $1000^\circ\text{C}$ , at which temperature there already exists an alloy of the composition  $\text{In}_4\text{S}_5$ , and then reduced at a rate of  $70-80^\circ/\text{hour}$  to a temperature of  $770^\circ\text{C}$ , at which temperature the reaction takes place. At this temperature, the reaction lasts for 5-6 hours. The temperature is then reduced from

Card 1/2

UDC: 546.682'221:537.311.33

ACC NR: AP6036956

(A, N)

SOURCE CODE: UR/0181/66/008/011/3196/3200

AUTHOR: Korsunskaya, N. Ye.; Lebedeva, N. N.; Sheynkman, M. K.

ORG: Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov AN UkrSSR)

TITLE: Low-temperature photochemical reactions in  $\text{In}_4\text{S}_5$  single crystals

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3196-3200

TOPIC TAGS: indium compound, sulfide, photochemistry, photoelectric property

ABSTRACT: The electric and photoelectric properties of  $\text{In}_4\text{S}_5$  single crystals were investigated. At low temperatures, a strong dependence of the photoelectric properties on the conditions of cooling and illumination of the samples was observed. This is shown to be due to the photochemical formation of new types of trapping centers (t-centers) and sensitizing recombination centers (r-centers), as in the case of CdS, which was studied earlier. The main parameters of these centers were determined. The forbidden gap width, hole mobility, spectral and temperature characteristics of the photocurrent, temperature dependences of the dark current, etc. were measured. It is concluded that the formation of new types of r-centers in CdS and  $\text{In}_4\text{S}_5$  provides information of the nature of "ordinary" r-centers, since their properties - small cross section of capture of majority carriers and large ratio of capture cross sections of carriers of both signs - are similar. Authors thank V. Ye. Lashkarev for a

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ACC NR: AF6036956

useful discussion. Orig. art. has: 5 figures and 2 tables.

SUB CODE: 20/ SUM DATE: 25Feb66/ ORIG REF: 006/ OTH REF: 011

Card 2/2

SHEYINKMAN, M.K.; KORSUNSKAYA, N.Ye. [Korsuns'ka, N.IE.]; MARKEVICH,  
I.V. [Markevych, I.V.]

Impurity scattering of electrons in CdS single crystals. Ukr.  
fiz. zhur. 8 no.7:747-755 J1 '63. (MIRA 16:8)

1. Institut poluprovodnikov AN UkrSSR, Kiyev.  
(Cadmium sulfide crystals)  
(Electrons—Scattering)



L 23309-66 EWT(m)/EPF(n)-2/EWP(t) IJP(c) JD/GG  
ACC NR: AP6012459 SOURCE CODE: UR/0181/66/008/004/1040/1048

AUTHOR: Galushka, A. P.; Yermolovich, I. B.; Korsunskaya, N. Ye.;  
Konozenko, I. D.; Sheynkman, M. K. 4/2/13

ORG: Institute of Physics, AN UkrSSR (Institut fiziki AN UkrSSR);  
Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov  
AN UkrSSR)

TITLE: Effect of gamma-ray and fast-neutron irradiation on electro-  
physical properties of CdS single crystals 17 27

SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1040-1048

TOPIC TAGS: irradiation, gamma irradiation, neutron irradiation,  
irradiation effect, irradiation damage

ABSTRACT: An investigation was made of the effect of nuclear radiation on some properties of CdS single crystals grown by the zone sublimation method and not subjected to alloying. To measure Hall effect, specimens shaped as a parallelepiped (15 x 4 x 1 mm) were used; for other investigations, specimens 4 x 3 x 1 mm were used. The neutron irradiation was carried out in a VVR-M-type reactor at a temperature below 70C. The gamma-ray irradiation was carried out in a cobalt installation at a temperature below 20C. To determine the character of the

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L 23309-66

ACC NR: AP6012459

defects appearing in CdS single crystals due to neutron and gamma-ray irradiation, the following crystal characteristics were investigated before and after irradiation: dark resistance, photosensitivity to white light, spectral distribution of photoconductivity, spectra of infrared quenching, Hall mobility of majority current carriers and its dependence on temperature, concentration and depth of occurrence of capture levels, characteristics of recombination centers, and luminescence spectra at 300 and 77K. Mobility and spectral distribution of photoconductivity were measured in a cryostat at a vacuum of the order of  $10^{-4}$  mm Hg. All other characteristics were measured in the air. It was found that gamma-irradiation primarily creates acceptor-type defects. In CdS, the simplest acceptors can be Cd vacancies or S atoms in interstices. Neutron irradiation creates donor-type defects. The simplest donors can be either Cd atoms in interstices or S vacancies. In addition, the products of nuclear transformations can also be donors. Orig. art. has: 6 figures and 2 tables. [JA]

SUB CODE: 20/ SUBM DATE: 09Aug65/ ORIG REF: 008/ OTH REF: 019  
ATD PRESS: 4236

Card 2/2 *ULR*

KORSUNSKAYA, N.Ye. [Korsun's'ka, N.Ye.]; SAL'KOV, Yo.A. [Sal'kov, Ye.A.];  
CHERNOVOLANSKO, A.A.; SHEVYKMAN, M.K.

Determining the quantum yield of the internal photoeffect in  
CdS single crystals using a short light pulse. Ukr. fiz. zhur.  
9 no.7:807-810 J1 '64. (MIRA 17:10)

1. Institut poluprovodnikov AN UkrSSR, Kiyev.

BUNINA, B.Z.; BELOZOROV, P.T.; NAUMOVA, N.A.; KORSUNSKAYA, R.M.

Nervous system manifestations in various forms of tuberculosis. Probl. tuberk., Moskva no. 6:30-36 Nov-Dec 1952. (GIML 23:5)

1. Professor for Bunina; Candidate Medical Sciences for Belozorov.
2. Of the Therapeutic Division (Head -- Prof. B. Z. Bunina) and the Pathophysiological Laboratory (Head -- Candidate Medical Sciences P. T. Belozorov) of the Ukrainian Tuberculosis Institute (Director -- Prof. B. M. Khmel'nitskiy) and of the Ukrainian Psychoneurological Institute (Director of Neurological Clinic -- Prof. A. I. Geymanovich).

PINSKAYA, R.M.; BASHTA, A.S.; EPSHTEYN, P.D.; ROSLIK, S.M.; ARENZON,  
P.Ya.; KORSUNSKAYA, R.M.; VASINA, I.N.; CHEKRYGINA, N.I.;  
VISHNEVSKAYA, Z.Ya.; KUL'CHITSKAYA, I.Ya.

Treatment of patients with tuberculous meningitis without  
subarachnoid administration of antibacterial preparations.  
Probl.tub. 38 no.1:60-67 '60. (MIRA 13:10)  
(MENINGES—TUBERCULOSIS)

KORSUNSKAYA, V. M.

Pervye uroki po osnovam darvinizma /First lessons on the principles of Darwinism/. Moskva, Akad. ped. nauk RSFSR, 1952. 56 p. (Akad. ped. nauk RSFSR. Leningr. in-t pedagogiki. Zauch. metod. Konsul'tatsiia)

SO: Monthly List of Russian Accessions, Vol. 7, No. 3, June 1954.

KORSUNSKAYA, V. M.

7976. Mel'nikov, A. I., Shibanov, A. A. I KORSUNSKAYA, V. M. Osnovydarvinizma.  
Dlya sred. shkoly. 6-ye izd. kaunas, uchpedgiz, 1955. 140s. s ill. I kart.; 4 l.  
ill. 22sm. 8000eks. 1r. 80k. V per.--NA litov. yaz.--(55-3242)

575.4(075)

SO: Enishuaya Ietopia', Vol. 7, 1955

MEL'NIKOV, M.I.; SHIBANOV, A.A.; KORSUNSKAYA, V.M.; RYBAKOVA, N.T., redaktor; TSIRUL'NITSKIY, N.P., ~~tekhnicheskii~~ redaktor

[Fundamentals of Darwinism; textbook for class 9 of the secondary school] Osnovy darvinizma; uchebnoe posobie dlia IX klassa srednei shkoly. Izd. 6-e. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1955. 150 p. (MIRA 8:7)  
(Evolution)



KORSUNSKAYA, V.M.: YELAGIN, V.D., redaktor; MUKHINA, T.N., tekhnicheskii  
redaktor.

[Ways of improving the knowledge of students in studying the principles of Darwinism. Problems in developing thought in students studying the principles of Darwinism] Puti povysheniia kachestva znaniia uchashchikhsia na urokakh osnov darvinizma. Voprosy razvitiia myshleniia uchashchikhsia na urokakh osnov darvinizma. Moskva, Izd-vo Akad.pedagog.nauk RSFSR. 1955. 217 p. (MLRA 8:8)  
(Evolution--Study and teaching)

USSR / General Division, Problems of Teaching

A-7

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 143

**Author** : Verzilin, N.M., Kazakova, O.V., Korsunkaia, V.M. Rykov, N.A.

Inst : Not Given

**Title** : On the Methodical Preparation of Biology Teachers for Work in Schools

Orig Pub : Izv. Akad. med. nauk RSFSR, 1955, vyp. 74, 185-212

**Abstract :** On the basis of a study of tests of the work of young Lenin-grad teachers, it is shown that the reasons for the poor preparation of graduates of pedagogical institutes consist in the insufficient number of hours allotted to methods (3.2%) in the educational plan of the institutes, in the low quality of the program on methods, in the absence of textbooks, and also in connection with other subjects, in the unsatisfactory organization of lectures and practical study, and others. The fundamental fault is the gap between theory and practice. The preparation of teachers demands fundamental changes.

Card : 1/1

KORSUNSKAYA, Vera Mikhaylovna; GRODENSKIY, G.P., otvetstvennyy redaktor;  
SUSIMNIKOVA, N.M., tekhnicheskiy redaktor

[Charles Darwin, the great naturalist] Velikii naturalist Charles  
Darvin. Khudozhnik B.Piatunin. Leningrad, Gos. izd-vo detskoi  
lit-ry, 1956. 319 p. (MLRA 10:2)  
(Darwin, Charles, 1809-1882)

VERZILIN, Nikolay Mikhaylovich; ZAVITAYEV, P.A.; KORSUNSKAYA, V.M.; PADALCO, N.V.; RYKOV, N.A.; SOKOLOV, N.L.; SHIBANOV, A.A.; YELAGIN, V.D., redaktor; GORNENK, V.P., tekhnicheskiy redaktor

[Working with pupils on school experimental plots] Methodika raboty s uchashchimisya na shkol'nom uchebno-opytnom uchastke. Pod red. N.M. Verzilina. [Moskva] Izd-vo Akademii pedagog. nauk RSFSR, 1956. 685 p. (MIRA 9:11)

1. Leningradskiy nauchno-issledovatel'skiy institut pedagogiki Akademii pedagogicheskikh nauk (for Verzilin, Korsunskaya, Rykov, Sokolov) 2. Yestestvennonauchnyy institut im. P.F. Lesgafta Akademii pedagogicheskikh nauk (for Shibarov) 3. Institut metodov obucheniya Akademii pedagogicheskikh nauk (for Zavitayev, Padalko) 4. Chlen-korrespondent APN RSFSR (for Verzilin)  
(School gardens)